**Edwards,Michelle**

**From:** Payne, Brian [bpayne@structurepoint.com]
**Sent:** Wednesday, November 09, 2016 9:42 AM
**To:** Azar, George; DeBaun,Curtis; Auler,Amy; Morris,Don; Elliott,Earl; Nasser,Karrum; Nation,Todd; Garrison,Neil; Crossen,Martha
**Cc:** Edwards,Michelle
**Subject:** Thank You! & Thoughts on Hybrid SW Fee
**Attachments:** Umbaugh 2016 Sewer Comparative Rate Study.pdf; SW Rate Comparison_101716.pdf; Fee Change.xlsx

Good morning Council Members,

First and foremost: thank you for your thoughtful consideration and discussion of both the new budget and the proposed sewer and stormwater fees. I recently had the chance to get caught up on the recent council meeting recordings and I've been impressed with your concern and representation of the citizens of Terre Haute. Thank you for your hard work and please keep it up! We do notice and appreciate your effort.

I also wanted to offer my personal thoughts on the proposed stormwater and sewer fees, and share what I hope is some useful information. You'll find attached 2 reports I've requested from Umbaugh. The reports provide a statewide evaluation of both wastewater and stormwater fees over the past four years. The wastewater study uses 4,0000 gallons (typical monthly single family household wastewater generation) as a common unit for comparison between Indiana communities. For comparison when reviewing the report: A typical Terre Haute household currently pays $37.96/mo for 4,000 gallons. Under the proposed wastewater rate increase that rate grows to $50.48/mo. You can look in the repot and see how our current and proposed wastewater and stormwater fees compare to other Indiana communities over the past 4 years. My calcs are summarized in the table below for the 33% wastewater rate increase (and attached as a spreadsheet):

| | Gallons Generated | Fee / 100 CF | Equivalent Gallons | Min Fee (First 300 CF) | Equivalent Gallons | Total Fee (4,000 gallons) |
|---|---|---|---|---|---|---|
| Existing | 4000 | $ 7.40 | 748 | $ 23.16 | 2,244 | $ 37.96 |
| Proposed | 4000 | $ 9.84 | 748 | $ 30.80 | 2,244 | $ 50.48 |

Our existing monthly fee of $37.96 for a typical household compares favorably with the statewide average (in December 2015) of $39.12 from Umbaugh's study. The proposed increase to $50.48 is certainly above average, but it doesn't exceed the maximum rate in the state of $87/mo for 4,000 gallons. It is important to note that the state wide averages only went through December 2015 and don't reflect any rate increases proposed within the last year. In addition, 20% of the 370 communities evaluated in the report have not raised wastewater rates in over a decade. They are long overdue and are likely facing (or have already implemented) large rate increases. The proposed residential stormwater rate of $3.50 is well below the state average of $5.36/mo based on 86 Indiana Stormwater Utilities.

Finally, I tried to put myself in your shoes and evaluate the proposed waste water and hybrid wastewater + stormwater fee increases. While I did evaluate the fee increases through my perspective as practitioner in the wastewater / stormwater field, in addition to a Terre Haute resident, the thoughts that follow are simply my personal opinion and don't represent professional recommendations.

1. The proposed stormwater fee requires a higher burden of proof as an entirely new fee
    - Because the stormwater fee is a fee that doesn't currently exist, I feel that the administration needs to provide a strong rationale for this fee and a clear plan for its use. Many communities implement a stormwater fee through a stormwater utility with a stormwater management plan for those very

reasons. As proposed, the stormwater fee would be administered by and across the sanitary district and go solely towards financing bonds for the next phase of the Long Term Control Plan.

- As a new fee, the opportunities for unintended consequences and unfair implementation are greater than for the existing wastewater fee.
- Ultimately I do not feel the administration has met the criteria above for implementation of a new stormwater fee. I think it is certainly a something that should be considered in the future, but it will need careful study and significant public input to get buy-in. That just hasn't been accomplished yet.

2. The hybrid fee proposal isn't necessarily more equitable
    - For average users, I think the hybrid fee versus the wastewater fee increase is nearly a wash. For example, our average monthly sewer bill is around $45/month. A 1/3 increase would add $15. A 22% increase plus $3.50 stormwater fee would add $13.50 – nearly the same. I think this is part of why you haven't seen a large participation from residents. Intuitively we recognize the rates are going up one way or another.
    - Where the equity is less clear is for business and organizations with large physical footprints (impervious areas) – and these are the folks that have been vocal and shown up to your meetings. Here too, I think it will be a wash for many users. While service industries (restaurants, laundromats, etc.), multi-family housing, universities, and even some churches may have large physical footprints, they also likely have large wastewater bills because of their high water use. They're going to get hit hard whether it's the wastewater fee or hybrid fee.
    - There are a small group of users that could be disproportionately impacted by the hybrid fee: large footprint but small water users (some commercial and industrial/commercial users like logistics/shipping) and agriculture. These were the most vocal opponents of the hybrid fee. While some of these users are contributing large amounts of stormwater to the sanitary sewers (any business with large runoff within city limits not serviced by one of the very few stormwater sewers), there are some that have valid concerns about being charged for runoff that they're not contributing to the sewers. I did look at the industrial park in Beacon to try to verify the claim that those businesses don't contribute to the sanitary sewers. There aren't any existing stormwater sewer shown, but there are several stormwater detention basins. The area is only served by sanitary sewers, but it is still likely that the claim is true that all stormwater is retained and not allowed to enter the sewers. This would have to be confirmed with the city engineer. I also think the farmer who spoke made a compelling argument that he also isn't significantly contributing runoff to the system.
    - Overall, I do not feel sufficient data has been supplied to support the case that the hybrid fee will be more equitable for most users and I suspect there will be a small minority of users disproportionately charged for a service they either don't use or use very little.
3. The wastewater fee increase seems to be simpler and more transparent
    - I found the most constructive way to think about the upcoming required long term control plan improvements is that they are simply a business cost of providing sanitary sewer service to customers. As such, I think the simplest and most transparent method of dealing with the LTCP cost is to raise the fees of users purchasing service to provide the necessary revenue for the next bond issue. Terre Haute is not alone in facing these LTCP costs – communities all across Indiana are facing them. Compared to many of these communities, Terre Haute is facing a rather modest price tag. It is paramount that progress be made on the LTCP so that these agreeable terms aren't renegotiated or fees and/or fines levied against the community.
    - People outside the city limits but within in the sanitary district will argue that the sanitary fees are taxation without representation. While I understand the sentiment – they're not being taxed, they're being charged a fee for a service. Any business or service provider must and will include the costs of providing that service in their fee in order to stay in business – and unlike taxes that's not something you get to vote on. This is not an insignificant group. In Beacon, you can select the "Sanitary District" layer and see how much larger the sanitary district it is than the city boundary.

In summary, for the three main reasons outlined above I personally recommend you approve the wastewater fee rate increase and reject the hybrid fee. I do commend you for considering both – that's just the sort creative and critical

thinking we need to get us on a better financial footing. In truth, until I spent time evaluating the two choices I initially preferred the hybrid fee, but it just doesn't hold up to closer scrutiny.

Please feel free to contact me to discuss further.

Sincerely,

**Brian Payne, PE**
**Staff Engineer – Utility Infrastructure**

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# Indiana Comparative Rate Study

# Sewer

January 2016

Prepared by

UMBAUGH

It's all about experience

In cooperation with

Indiana Association *of* Cities and Towns

UMBAUGH

It's all about experience

To the Reader:

This report summarizes a study of rates and charges for sewage treatment by many municipally owned systems in Indiana. The study is based upon information provided by municipal utilities as of December 2015.

## Table of Contents

## *Preface*

Umbaugh has been a leader in municipal advisory services for governmental entities in Indiana for more than 65 years. As one of the largest and most active independent municipal advisors and rate consultants to governmental units in Indiana, Umbaugh is uniquely qualified to provide this analysis of municipal sewage rates and charges.

This report covering 370 communities is our most extensive survey to date. We acknowledge the extra efforts and cooperation of the Mayors, Clerk-Treasurers, Office Managers and Billing Clerks throughout the state who took the time to provide us with the rate information for their communities.

Although this study required many hours of research, compilation and data analysis, we at Umbaugh are happy to provide it because we feel it is a vital resource to local government decision-makers around the state. Accurately comparing local rates and charges with those of similar utilities is an important tool to assist utility managers and decision makers. From our perspective, it is interesting to periodically evaluate what, in many cases, is the result of our work. This analysis allows us to better determine the issues facing local governments and how best to solve them.

## General Information

Please note that all volume statistics in this report are stated in gallons. The majority of municipal systems record meter readings based on gallons used. For conversion purposes, a per-one-hundred-cubic-foot price should be multiplied by 1.333 to obtain a per-one-thousand-gallon price.

***Example:***

| | |
|---|---|
| Charge per 100 cubic feet | $ 0.75 |
| Times conversion constant | x 1.333 |
| Charge per 1,000 gallons | $ 1.00 |

Similarly, the number of cubic feet of water multiplied by 7.5 yields the volume of water in gallons.

***Example:***

| | |
|---|---|
| Number of cubic feet | 175 |
| Times conversion constant | x 7.5 |
| Number of gallons | 1,313 |

The following briefly explains some of the basic characteristics of rate structures and the terminology used in this report. Charges to customers are of five general types:

**1. Metered Rates**

Metered Rates are based on water consumption. In general for utilities in the Midwest, as the volume of usage increases (gallons or cubic feet), the price per unit (usually thousands of gallons or hundreds of cubic feet) decreases. The "rate brackets" and pricing might appear as follows:

| | | |
|---|---|---|
| First | 3,000 gallons per month - | $7.00 per 1,000 gallons (1) |
| Next | 7,000 gallons per month - | $6.50 per 1,000 gallons |
| Next | 20,000 gallons per month - | $5.25 per 1,000 gallons |
| Next | 70,000 gallons per month - | $3.95 per 1,000 gallons |
| Over | 100,000 gallons per month - | $3.15 per 1,000 gallons (2) |

For purposes of this survey (1) is the "first bracket price" and (2) is the "last bracket price."

**2. Base and Flow**

A Base Charge or Service Charge is a fixed monthly amount that is usually determined by a customer's meter size. Normally the base charge is designed to recover costs of serving each customer, such as meter reading and billing as well as a portion of the collection system costs. For sewer systems, a base charge is normally coupled with a treatment rate (flow rate). The flow rate is normally a single rate per unit designed to recover the cost to treat the sewage, including debt service on the wastewater treatment plant. This type of rate structure might appear as follows:

| Meter Size | BaseCharge |
|---|---|
| 5/8" - 3/4" | $10.00 per month |
| 1" | $25.00 per month |
| 2" | $85.00 per month |
| 4" | $365.00 per month |

Plus a treatment flow charge of $7.00 per 1,000 gallons.

For purposes of this survey the "first bracket price" and the "last bracket price" would be the same.

In this example: $7.00 per 1,000 gallons.

**3. Minimum Charge**

A Minimum Charge is similar to a base charge in that it is typically a fixed amount based on meter size. A minimum charge, however, includes a certain level of flow for which the customer is billed whether they use the water or not. For example, a typical minimum charge might be $20.00 for any level of flow from 0 gallons through 3,000 gallons. Minimum Charges are not as common with sewer utilities as they are with water utilities.

**4. Flat Rates**

"Flat rates" are based on estimated consumption of water and are used where metered water usage is not available. An example of a flat rate system follows:

| | |
|---|---|
| Single family residence | $40.00 per month |
| Apartment complex | $30.00 per unit/month |
| Laundromat | $30.00 per washer/month |
| School | $1.75 per student/month |

This report includes rate schedules and charges from all of the types detailed above.

## Disclaimers

In our work around the state, we are frequently asked how a community's sewer rates compare to those in the next community. It is natural that both government officials and citizens ask this question, and this report will help answer that question. This report and the question it answers, however, do have limitations. Comparing a residential bill for 5,000 gallons of monthly water usage between two different utility systems tells you what a customer on each system pays for the same amount of water usage. But comparing the bills for similar customers on two different sewer systems doesn't tell the complete story. Differences in operating characteristics, staffing, customer makeup and usage levels and many other factors all impact the utility's cost structure and therefore its rate structure as well. In addition, the type of ownership impacts the operating cost and rate structure. In many cases, user rates for privately held investor-owned utilities are higher than the rates for municipally owned utilities because of the need to provide for shareholder return and taxes. Without taking these factors into consideration, the user could reach incorrect conclusions regarding the differences in customer billings for the same amount of water usage from one utility to the next.

As we mentioned previously, preparing this report requires collecting and analyzing large amounts of rate data that to some extent is in a perpetual state of change. The information contained in this report is as accurate as we are able to make it as of the data collection cut-off date.

# Indiana Comparative Sewer Rate Study

## Comparison of Rates and Charges from October 2011 to December 2015

### Monthly Billings

As we discuss in more detail on the next page, much has changed over the past few years concerning sewage rates in the state of Indiana. On average, sewer rates and charges have increased approximately 22% over the last four years since our prior study. There are a multitude of reasons for this outcome, including increases in operating expenses, declining customer usage due to conservation or rate fatigue, and the number of capital improvement projects completed over the past four years. The cost of capital improvement projects is generally the biggest driver impacting rates and charges. Communities undertake these projects for a variety of reasons. Certainly, the relatively low cost of obtaining debt financing and the replacement of aging infrastructure has spurred capital spending. Utilities are continually faced with unfunded government mandates and regulations, such as stormwater separation and the Clean Water Act. Many communities began implementing projects required to remediate combined sewer overflows in recent years and those who have addressed this issue are experiencing a burden on sewage rates and charges to offset the costs of these projects. Finally, many utilities have expanded treatment facilities to accommodate customer growth.

> On average, sewer rates and charges have increased approximately 22% over the last four years.

**From October 2011 to December 2015**

**Monthly Billings**

| | October 2011 Average | December 2015 Average | Percent Increase |
|---|---|---|---|
| First bracket price (per 1,000 gallons) | $5.76 | $7.06 | 22.6% |
| Last bracket price (per 1,000 gallons) | $4.57 | $5.63 | 23.2% |
| Gallons given for minimum price | 2,670.00 | 2,617.00 | -2.0% |
| Minimum charge for 5/8"meter | $19.53 | $24.72 | 26.6% |
| Monthly bill based on 2,000 gallons usage | $23.57 | $28.78 | 22.1% |
| Monthly bill based on 3,000 gallons usage | $27.31 | $33.33 | 22.0% |
| Monthly bill based on 4,000 gallons usage | $32.01 | $39.12 | 22.2% |
| Monthly bill based on 5,000 gallons usage | $37.28 | $45.29 | 21.5% |
| Monthly bill based on 10,000 gallons usage | $60.90 | $74.80 | 22.8% |

= Approximate single-family residential average.

# Indiana Comparative Sewer Rate Study

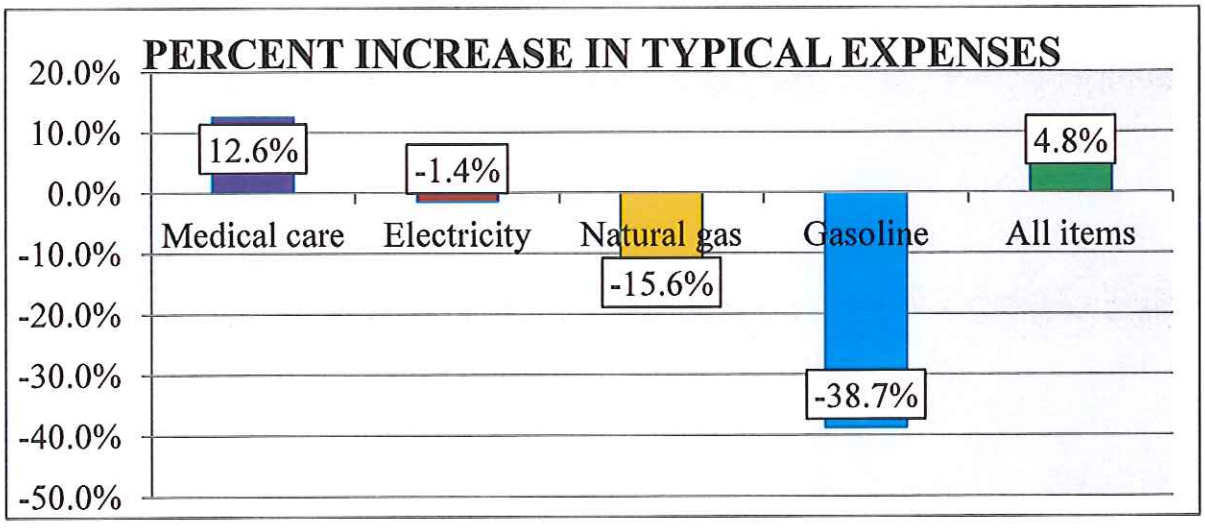
## Comparison of Expenses from August 2011 to December 2015

Since we issued our last Comparative Rate Study in January 2012, the world has seen dramatic changes affecting the day-to-day operations of the communities in which we live. Indiana and the country have mostly recovered from the economic downturn due to the financial market "meltdown" in 2008. Most of the projects funded with grants and low interest loans from the American Recovery and Reinvestment Act of 2009 are now complete.

In the coming years and for the foreseeable future many Indiana communities will be embarking on their largest infrastructure projects ever as they spend millions of dollars on combined sewer overflow remediation projects. These projects will mostly be funded with Sewage Works revenue bonds supported by user rates. As such Indiana communities will likely see larger rate increases than we have seen in the past.

Local governments are also faced with increases in expenses. For example, communities are continuing to report significant increases in the cost of employee health insurance and normal increases for employee wages which account for a large portion of a utility's operating expenses. Recently we have seen significant decreases in gasoline prices and also a slight reduction in electricity prices this past year after many years of increases over the past 10 years for Indiana communities. These increases -- coupled with the increases associated with improvement projects and decreases in consumption -- have contributed to the 22% increase in sewer rates and charges throughout the state.

The following table represents the increase in typical expenses from August 2011 to November 2015.



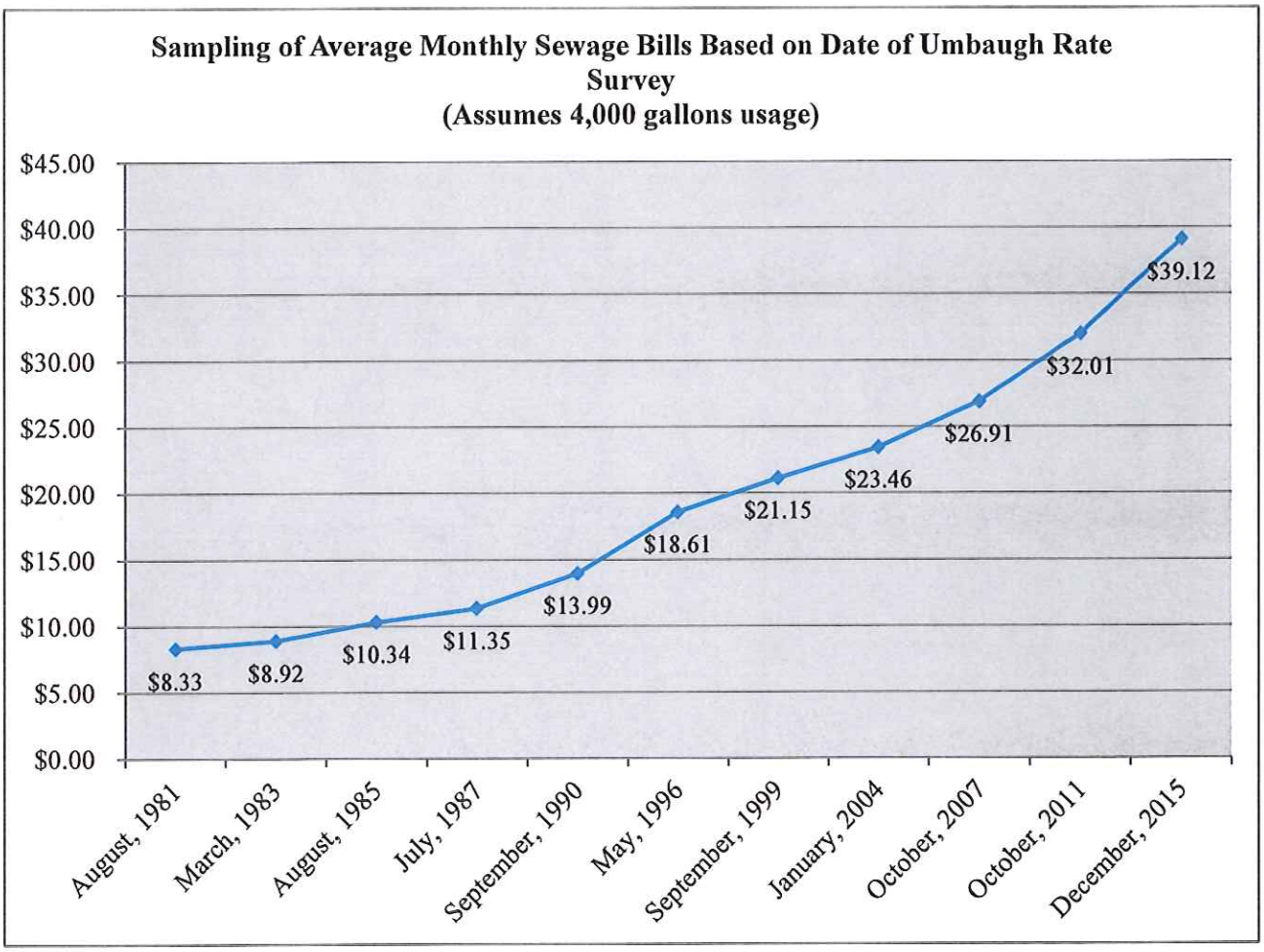

*Source data comes from the Bureau of Labor Statistics website (www.bls.gov).

# Indiana Comparative Sewer Rate Study

## Schedule of Average Rates Based on Date of Umbaugh Rate Studies

The chart below compares the average data derived from the past 11 rate surveys covering the last 34 years withthe data compiled as part of the new January 2016 survey.

A residential bill of 4,000 gallons increased 22.2% from October 2011 to December 2015 and 369.6% since 1981.



# Indiana Comparative Sewer Rate Study

## Schedule of Rate Variances and Averages

The schedule below shows the pricing variances of several common rate components. The comparison includes the lowest, average and highest prices as determined from the study data. As expected there are large variances in what municipal systems charge for sewage treatment and disposal services. These variances are, in part, attributable to factors such as population, geographic location and the number of years the rates have been in effect. Each of these factors will be explored later in this report.

The price per thousand gallons in the first bracket varies from $1.13 to $25.34 per thousand gallons, approximately 22 times as much as the lowest price. The monthly billing for 4,000 gallons of water, which is often considered to approximate average household usage, varies from a per-month low of $12.00 to a high of $87.00.

The chart below summarizes our findings for sewage rate information across the state of Indiana.

### Sewer Rate Variances and Averages

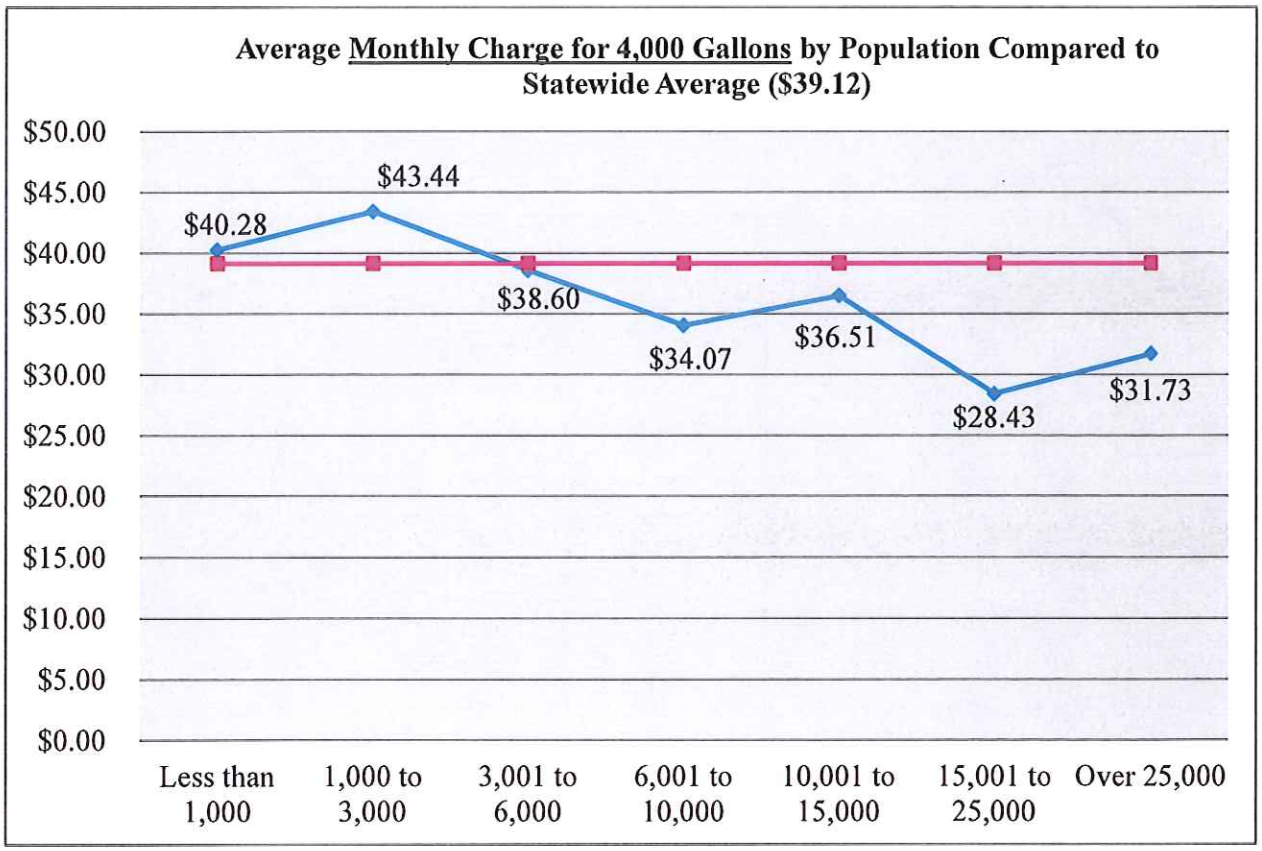
| | Monthly Billing | | |
|---|---|---|---|
| | Minimum Charge | Average Charge | Maximum Charge |
| First bracket price (per 1,000 gallons) | $1.13 | $7.06 | $25.34 |
| Last bracket price (per 1,000 gallons) | $0.50 | $5.63 | $18.45 |
| Gallons given for minimum price | 1,000 | 2,617 | 10,000 |
| Minimum charge for 5/8"meter | $7.56 | $24.72 | $73.80 |
| Base charge 5/8" meter | $0.62 | $16.10 | $56.38 |
| 2,000 gallons | $8.85 | $28.78 | $87.00 |
| 3,000 gallons | $10.53 | $33.33 | $87.00 |
| 4,000 gallons | $12.00 | $39.12 | $87.00 |
| 5,000 gallons | $12.00 | $45.29 | $108.90 |
| 10,000 gallons | $12.00 | $74.80 | $184.50 |

# Indiana Comparative Sewer Rate Study

## Average Statistics by 2010 Population

The graph below shows the correlation between a community's size and its sewer rates and charges. With relatively few exceptions, charges for sewer service generally follow a pattern of higher rates in small communities and lower rates in large communities.

These variations are reasonable when you consider that the cost of operating a utility must be spread over its customer base. A larger customer base means that a smaller portion of the total costs of operation is allocated to each individual customer. In addition, as the volume of treated flow increases, the average cost to treat that flow decreases.



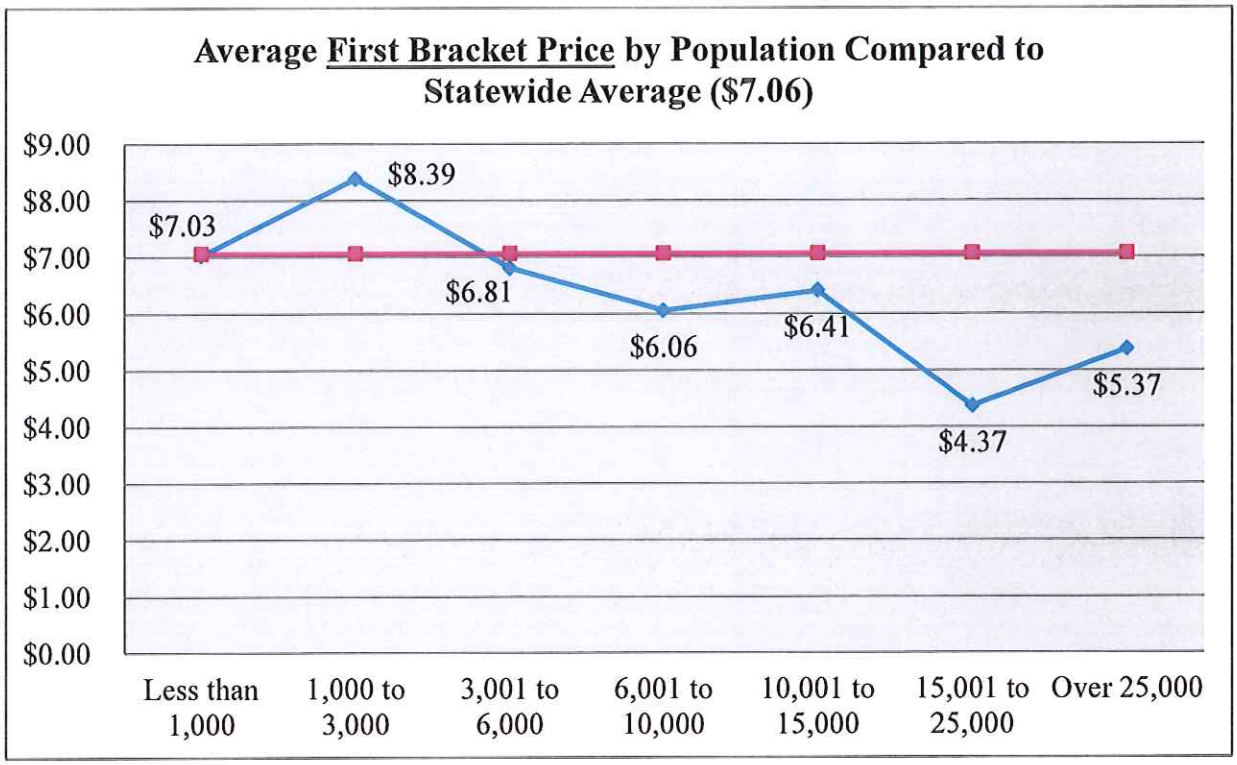
# Indiana Comparative Sewer Rate Study

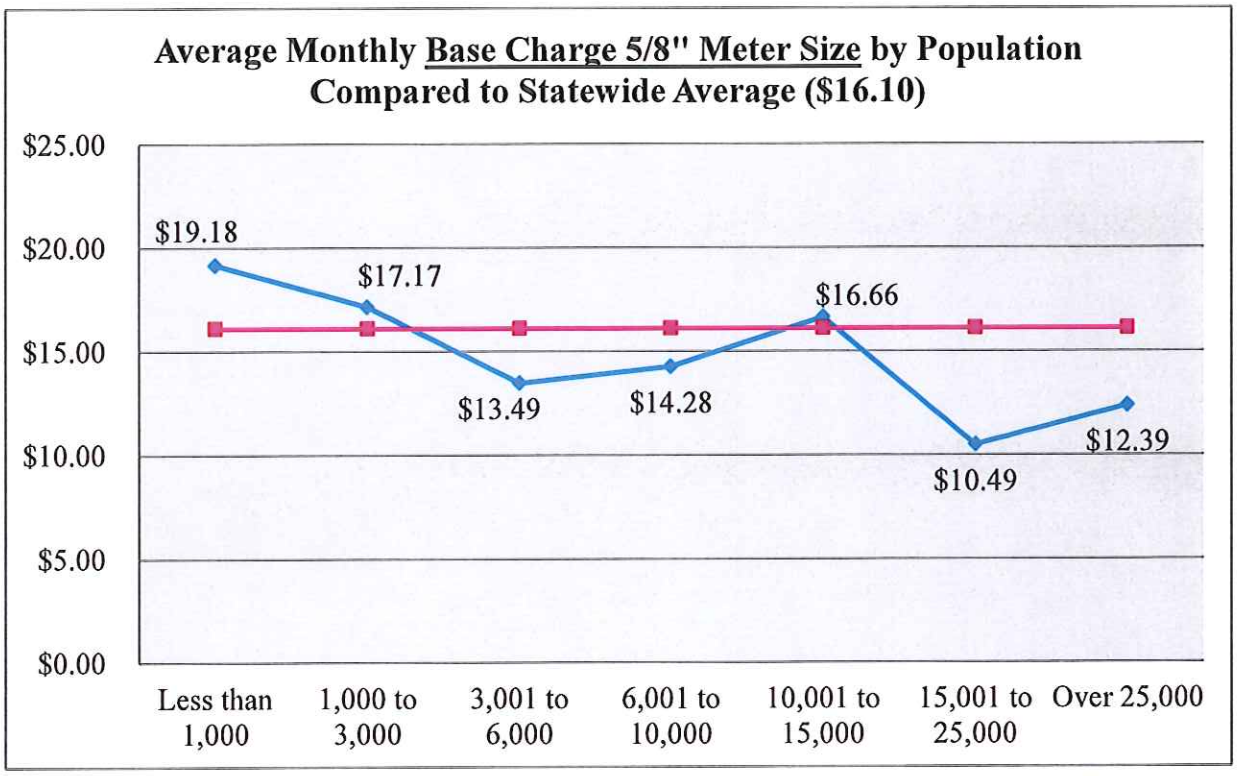
## Average Statistics Based on 2010 Population

### Monthly Billings

| | Population | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Less than 1,000** | **1,000 to 3,000** | **3,001 to 6,000** | **6,001 to 10,000** | **10,001 to 15,000** | **15,001 to 25,000** | **Over 25,000** |
| | 103 | 127 | 38 | 30 | 19 | 17 | 36 |
| First bracket price (per 1,000 gallons) | $7.03 | $8.39 | $6.81 | $6.06 | $6.41 | $4.37 | $5.37 |
| Last bracket price (per 1,000 gallons) | $5.39 | $6.22 | $5.71 | $5.14 | $5.26 | $4.32 | $5.33 |
| Gallons given for minimum price | 2,669 | 2,452 | 2,836 | 2,393 | 2,978 | 2,748 | 2,935 |
| Minimum charge for 5/8"meter | $27.32 | $24.83 | $23.53 | $22.11 | $24.25 | $13.28 | $24.23 |
| Base charge 5/8" meter | $19.18 | $17.17 | $13.49 | $14.28 | $16.66 | $10.49 | $12.39 |
| Monthly bill based on 2,000 gallons usage | $31.99 | $30.80 | $27.67 | $23.29 | $27.87 | $18.99 | $23.36 |
| Monthly bill based on 3,000 gallons usage | $35.50 | $36.53 | $32.38 | $27.57 | $31.90 | $23.42 | $27.09 |
| Monthly bill based on 4,000 gallons usage | $40.28 | $43.44 | $38.60 | $34.07 | $36.51 | $28.43 | $31.73 |
| Monthly bill based on 5,000 gallons usage | $45.30 | $50.83 | $44.93 | $40.62 | $41.27 | $33.45 | $37.71 |
| Monthly bill based on 10,000 gallons usage | $70.01 | $85.04 | $76.97 | $72.91 | $65.31 | $58.54 | $64.37 |

*See Graphs on previous and next page.*


Average First Bracket Price by Population Compared to Statewide Average ($7.06)
$9.00
$8.00
$7.00
$6.00
$5.00
$4.00
$3.00
$2.00
$1.00
$0.00
$7.03
$8.39
$6.81
$6.06
$6.41
$4.37
$5.37
Less than 1,000
1,000 to 3,000
3,001 to 6,000
6,001 to 10,000
10,001 to 15,000
15,001 to 25,000
Over 25,000


Average Monthly Base Charge 5/8" Meter Size by Population Compared to Statewide Average ($16.10)
$25.00
$20.00
$15.00
$10.00
$5.00
$0.00
$19.18
$17.17
$13.49
$14.28
$16.66
$10.49
$12.39
Less than 1,000
1,000 to 3,000
3,001 to 6,000
6,001 to 10,000
10,001 to 15,000
15,001 to 25,000
Over 25,000

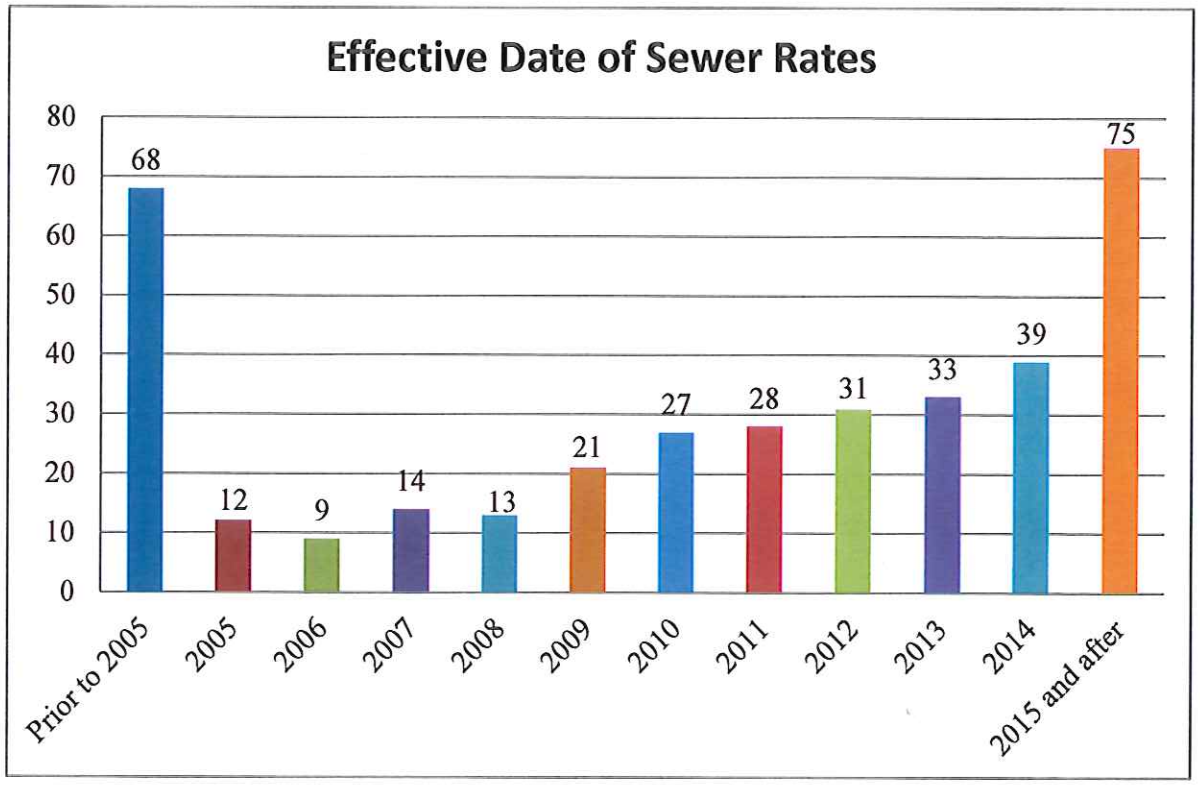
# Indiana Comparative Sewer Rate Study

## Average Statistics by Effective Date of Current Rates

The following pages examine average charges for service based upon both the current rate structure and size of the community. The first schedule provides statistics for all municipalities sorted by the effective date of the rates adopted.

Sixty eight municipalities are using rates adopted prior to 2005, representing approximately 18% of the communities included in this survey.

This is important because it indicates these communities will likely experience larger rate adjustments to compensate for normal changes in operating costs that were absorbed over the past 10 years rather than passed on by the utility in the form of minor rate adjustments. Communities should strongly consider an analysis of their rates and charges at least every three to five years.



# Indiana Comparative Sewer Rate Study

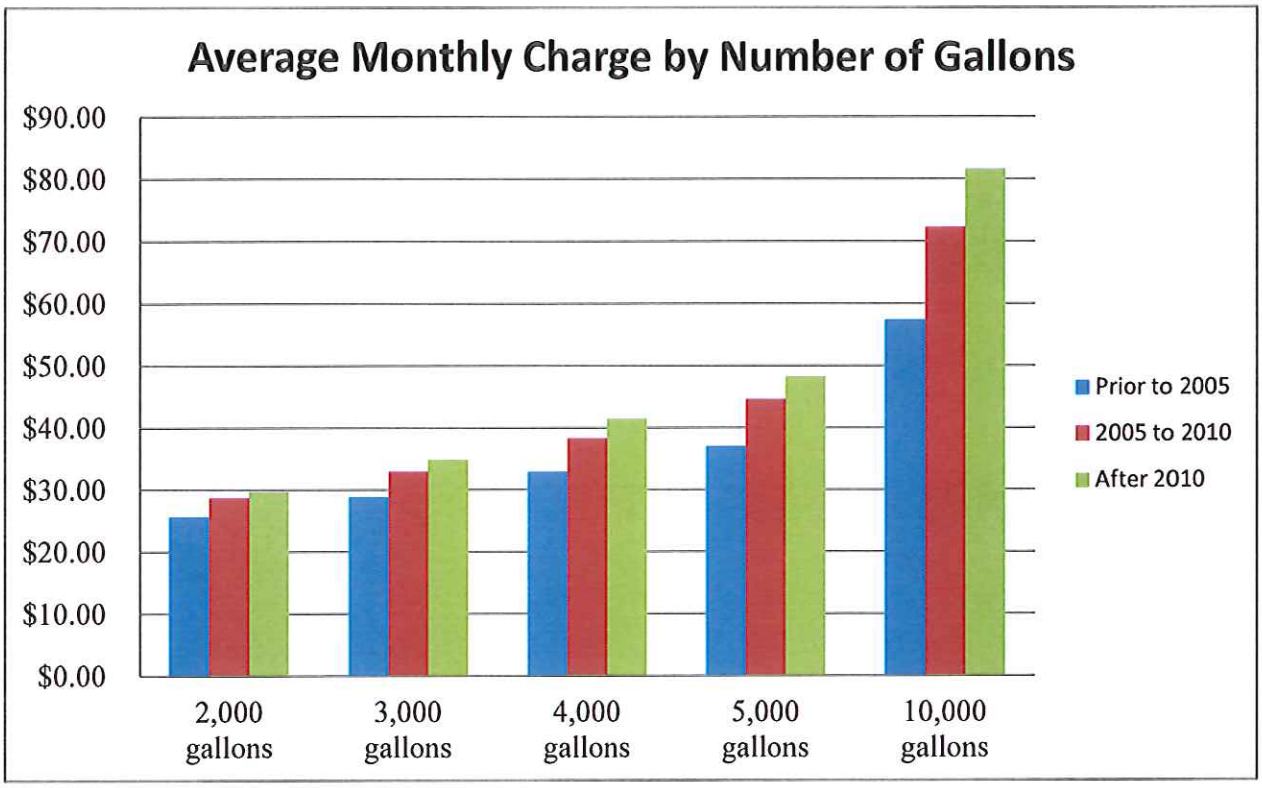
## Average Statistics by Effective Date of Current Rates

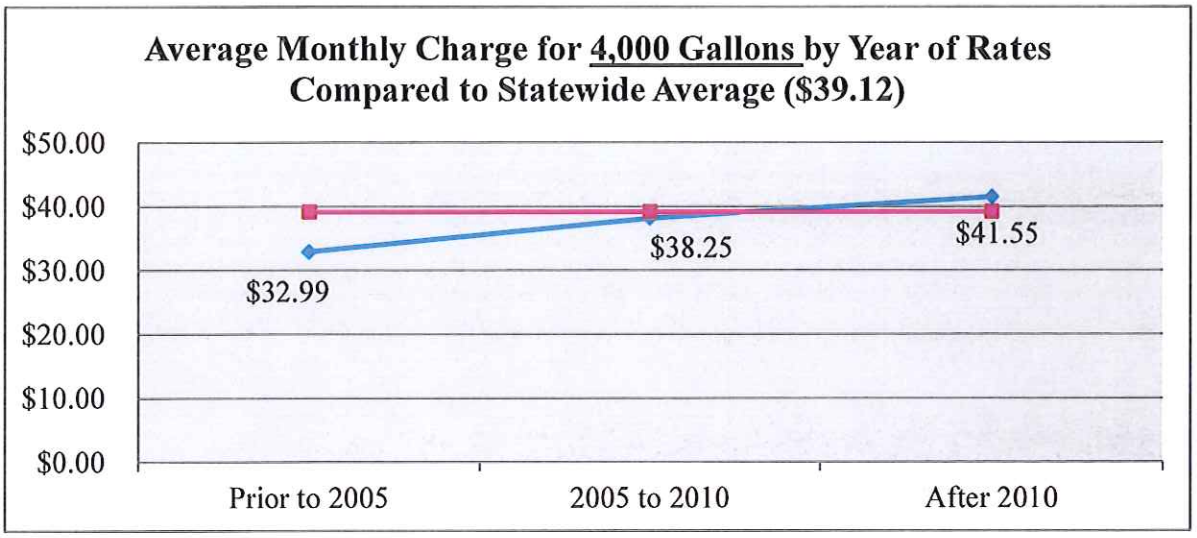
### All Populations

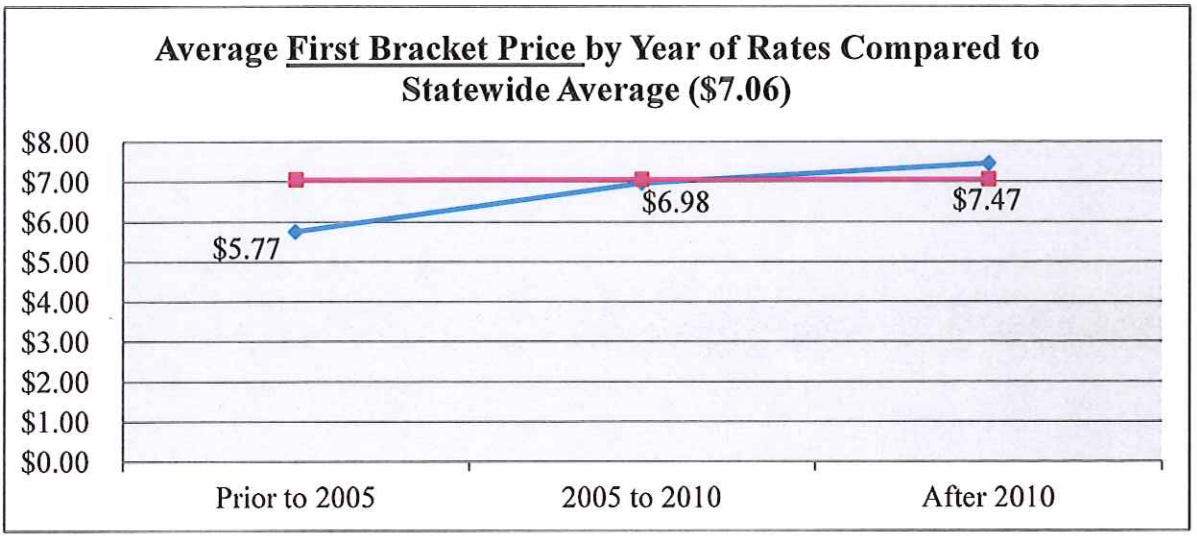
### Monthly Billings

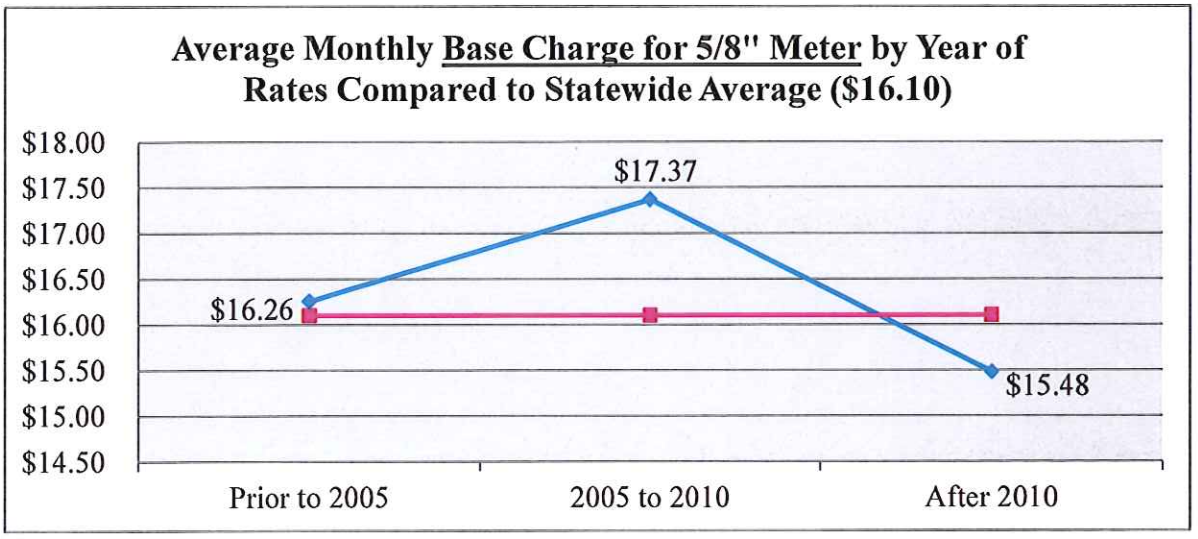
| | Year Current Rates Were Effective | | |
|---|---|---|---|
| | Prior to 2005 | 2005 to 2010 | After 2010 |
| Municipalities in study group | 68 | 96 | 206 |
| First bracket price (per 1,000 gallons) | $5.77 | $6.98 | $7.47 |
| Last bracket price (per 1,000 gallons) | $4.59 | $5.27 | $6.09 |
| Gallons given for minimum price | 2,442 | 2,738 | 2,613 |
| Minimum charge for 5/8"meter | $22.93 | $23.79 | $25.63 |
| Base Charge 5/8" Meter | $16.26 | $17.37 | $15.48 |
| Typical Billings: | | | |
| 2,000 gallons | $25.73 | $28.71 | $29.83 |
| 3,000 gallons | $28.94 | $32.95 | $34.96 |
| 4,000 gallons | $32.99 | $38.25 | $41.55 |
| 5,000 gallons | $37.10 | $44.61 | $48.31 |
| 10,000 gallons | $57.47 | $72.24 | $81.72 |

*See Graphs on previous and next page.*




Average Monthly Charge for 4,000 Gallons by Year of Rates Compared to Statewide Average ($39.12)
$50.00
$40.00
$30.00
$20.00
$10.00
$0.00
$32.99
$38.25
$41.55
Prior to 2005
2005 to 2010
After 2010


Average First Bracket Price by Year of Rates Compared to Statewide Average ($7.06)
$8.00
$7.00
$6.00
$5.00
$4.00
$3.00
$2.00
$1.00
$0.00
$5.77
$6.98
$7.47
Prior to 2005
2005 to 2010
After 2010


Average Monthly Base Charge for 5/8" Meter by Year of Rates Compared to Statewide Average ($16.10)
$18.00
$17.50
$17.00
$16.50
$16.00
$15.50
$15.00
$14.50
$16.26
$17.37
$15.48
Prior to 2005
2005 to 2010
After 2010

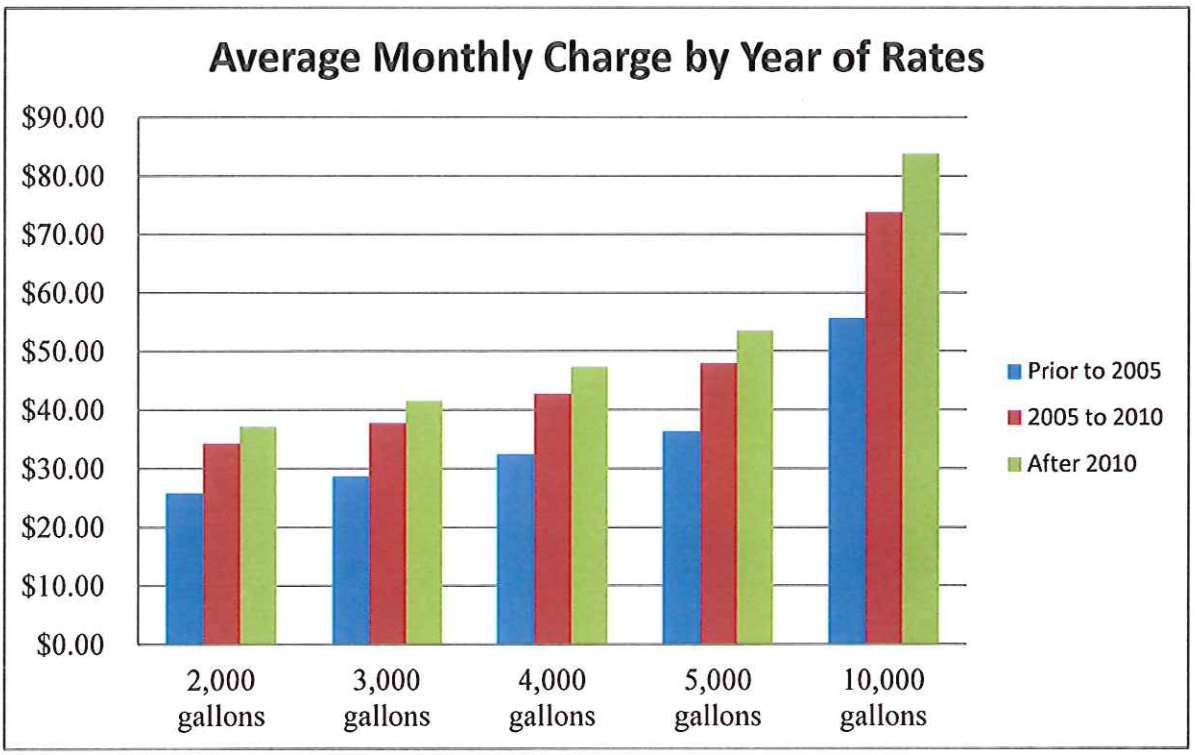
# Indiana Comparative Sewer Rate Study

## Average Statistics by Effective Date of Current Rates

### Population less than 1,000

### Monthly Billings

| | Year Current Rates Were Effective | | |
|---|---|---|---|
| | Prior to 2005 | 2005 to 2010 | After 2010 |
| Municipalities in study group | 40 | 30 | 33 |
| First bracket price (per 1,000 gallons) | $5.39 | $8.02 | $8.01 |
| Last bracket price (per 1,000 gallons) | $4.64 | $5.76 | $5.90 |
| Gallons given for minimum price | 2,453 | 2,293 | 3,422 |
| Minimum charge for 5/8"meter | $23.52 | $25.55 | $34.45 |
| Base Charge 5/8" Meter | $18.56 | $22.51 | $16.87 |
| Typical Billings: | | | |
| 2,000 gallons | $25.85 | $34.36 | $37.27 |
| 3,000 gallons | $28.72 | $37.77 | $41.65 |
| 4,000 gallons | $32.49 | $42.74 | $47.49 |
| 5,000 gallons | $36.37 | $47.99 | $53.67 |
| 10,000 gallons | $55.76 | $73.76 | $83.88 |



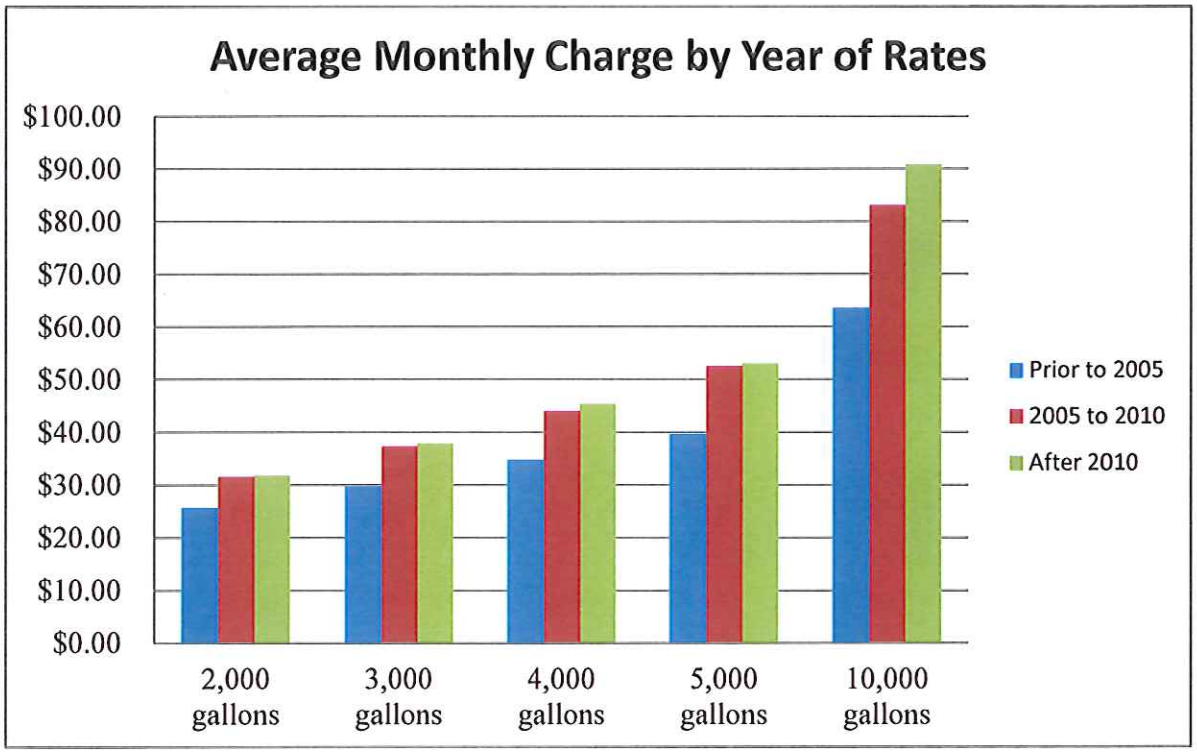
# Indiana Comparative Sewer Rate Study

## Average Statistics by Effective Date of Current Rates

### Population 1,000 to 3,000

### Monthly Billings

| | Year Current Rates Were Effective | | |
|---|---|---|---|
| | Prior to 2005 | 2005 to 2010 | After 2010 |
| Municipalities in study group | 21 | 23 | 83 |
| First bracket price (per 1,000 gallons) | $6.71 | $8.01 | $8.89 |
| Last bracket price (per 1,000 gallons) | $4.78 | $5.44 | $6.77 |
| Gallons given for minimum price | 2,417 | 2,347 | 2,483 |
| Minimum charge for 5/8"meter | $17.66 | $23.40 | $26.41 |
| Base Charge 5/8" Meter | $12.88 | $21.22 | $17.23 |
| Typical Billings: | | | |
| 2,000 gallons | $25.75 | $31.53 | $31.88 |
| 3,000 gallons | $29.92 | $37.32 | $37.98 |
| 4,000 gallons | $34.83 | $44.00 | $45.46 |
| 5,000 gallons | $39.72 | $52.51 | $53.18 |
| 10,000 gallons | $63.68 | $83.13 | $90.97 |



# Indiana Comparative Sewer Rate Study

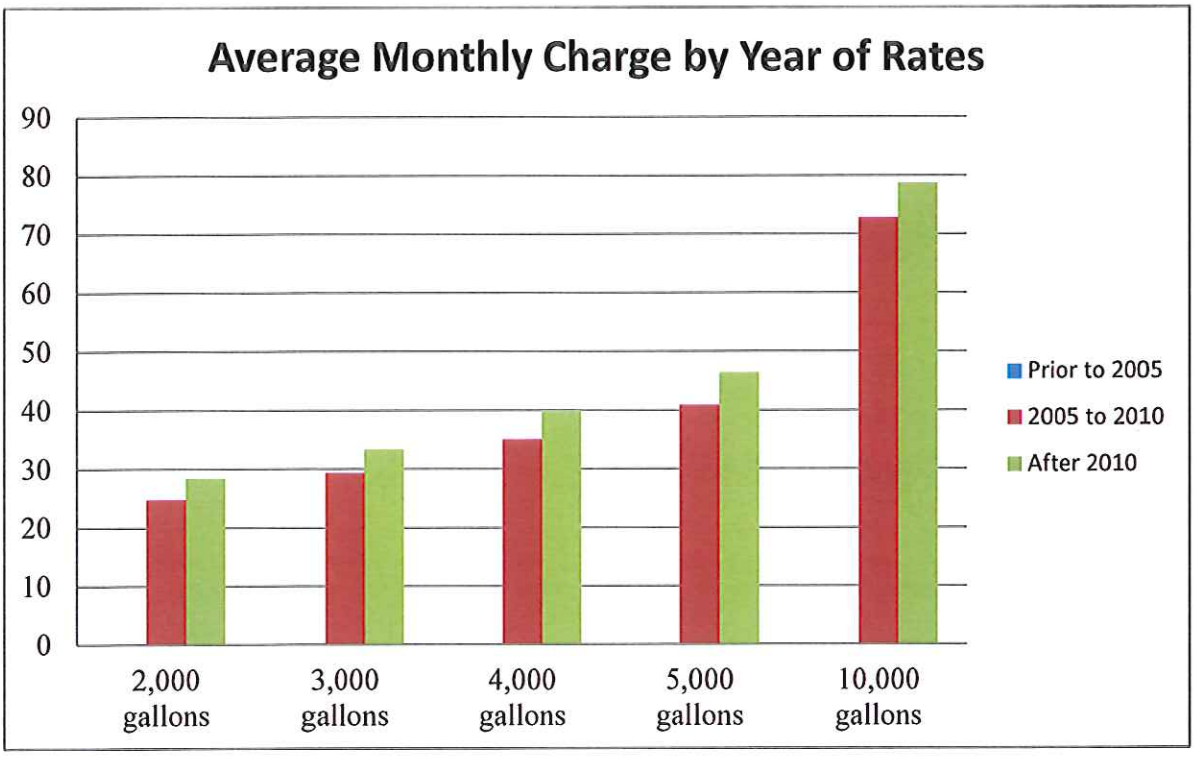
## Average Statistics by Effective Date of Current Rates

### Population 3,001 to 6,000

### Monthly Billings

| | Year Current Rates Were Effective | | |
|---|---|---|---|
| | Prior to 2005 | 2005 to 2010 | After 2010 |
| Municipalities in study group | * | 11 | 26 |
| First bracket price (per 1,000 gallons) | N/A | $6.37 | $7.12 |
| Last bracket price (per 1,000 gallons) | N/A | $4.51 | $6.34 |
| Gallons given for minimum price | N/A | 3,668 | 2,403 |
| Minimum charge for 5/8"meter | N/A | $23.33 | $22.40 |
| Base Charge 5/8" Meter | N/A | $12.01 | $13.59 |
| Typical Billings: | | | |
| 2,000 gallons | N/A | $24.79 | $28.49 |
| 3,000 gallons | N/A | $29.34 | $33.45 |
| 4,000 gallons | N/A | $35.03 | $39.92 |
| 5,000 gallons | N/A | $40.79 | $46.54 |
| 10,000 gallons | N/A | $72.74 | $78.82 |

***Current information not available.**



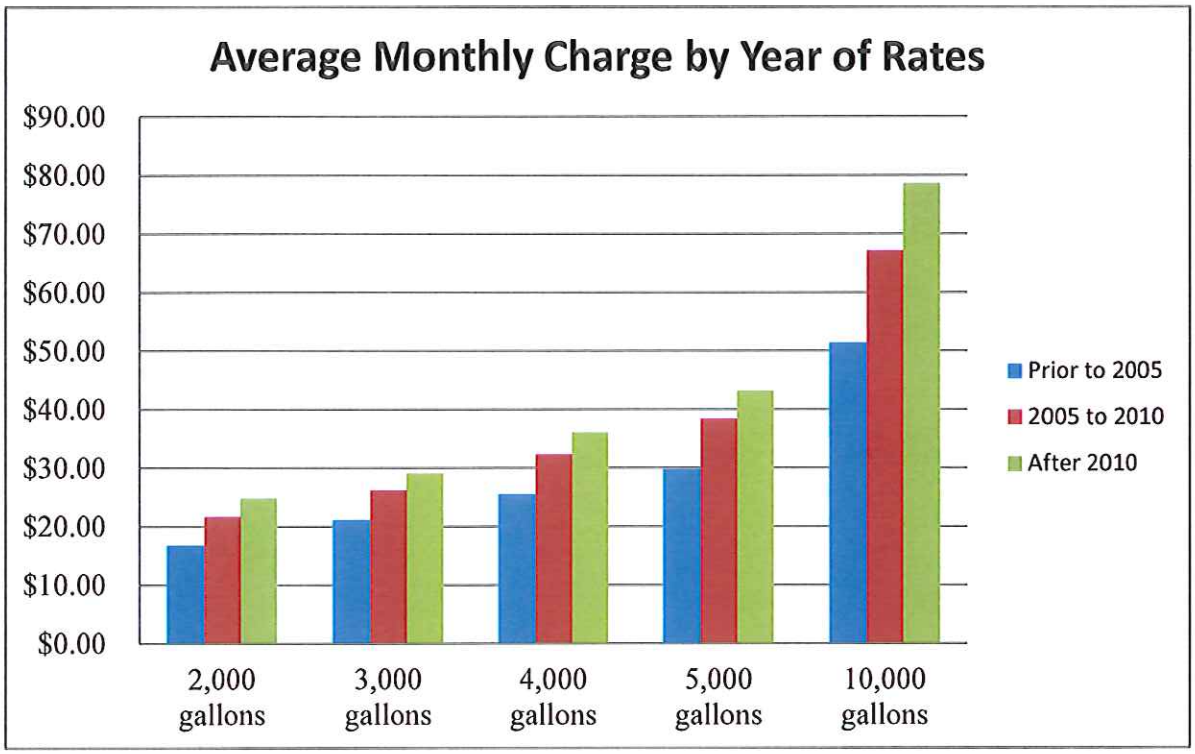
# Indiana Comparative Sewer Rate Study

## Average Statistics by Effective Date of Current Rates

### Population 6,001 to 10,000

### Monthly Billings

| | Year Current Rates Were Effective | | |
|---|---|---|---|
| | Prior to 2005 | 2005 to 2010 | After 2010 |
| Municipalities in study group | 3 | 8 | 19 |
| First bracket price (per 1,000 gallons) | $3.24 | $5.95 | $6.55 |
| Last bracket price (per 1,000 gallons) | $3.24 | $4.25 | $5.85 |
| Gallons given for minimum price | 1,870 | 2,250 | 2,530 |
| Minimum charge for 5/8"meter | $10.70 | $18.69 | $24.62 |
| Base Charge 5/8" Meter | $12.36 | $15.85 | $14.03 |
| Typical Billings: | | | |
| 2,000 gallons | $16.89 | $21.64 | $24.99 |
| 3,000 gallons | $21.21 | $26.19 | $29.16 |
| 4,000 gallons | $25.53 | $32.28 | $36.17 |
| 5,000 gallons | $29.85 | $38.37 | $43.27 |
| 10,000 gallons | $51.46 | $67.10 | $78.74 |



# Indiana Comparative Sewer Rate Study

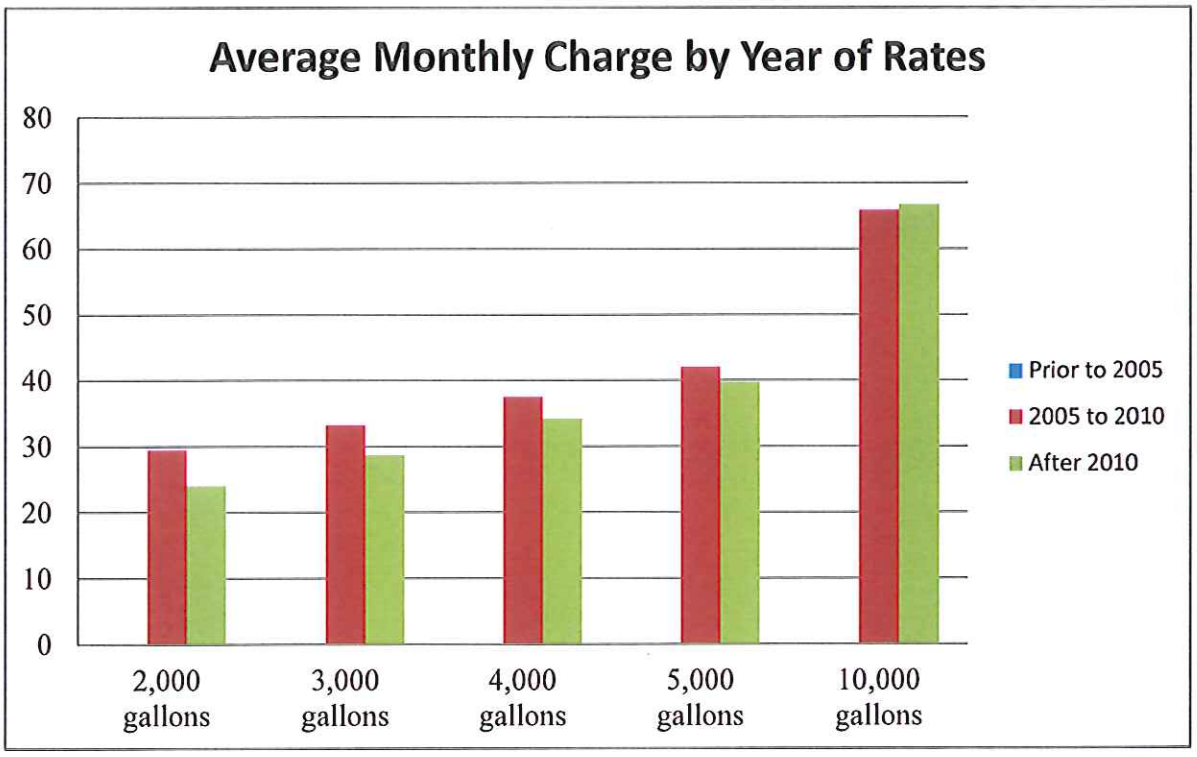
## Average Statistics by Effective Date of Current Rates

### Population 10,001 to 15,000

### Monthly Billings

| | Year Current Rates Were Effective | | |
|---|---|---|---|
| | Prior to 2005 | 2005 to 2010 | After 2010 |
| Municipalities in study group | * | 9 | 9 |
| First bracket price (per 1,000 gallons) | N/A | $5.87 | $6.04 |
| Last bracket price (per 1,000 gallons) | N/A | $5.71 | $4.79 |
| Gallons given for minimum price | N/A | 3,444 | 2,667 |
| Minimum charge for 5/8"meter | N/A | $19.30 | $19.63 |
| Base Charge 5/8" Meter | N/A | $17.37 | $15.94 |
| Typical Billings: | | | |
| 2,000 gallons | N/A | $29.40 | $24.10 |
| 3,000 gallons | N/A | $33.24 | $28.77 |
| 4,000 gallons | N/A | $37.46 | $34.29 |
| 5,000 gallons | N/A | $42.00 | $39.80 |
| 10,000 gallons | N/A | $65.78 | $66.76 |

*Current information not available.



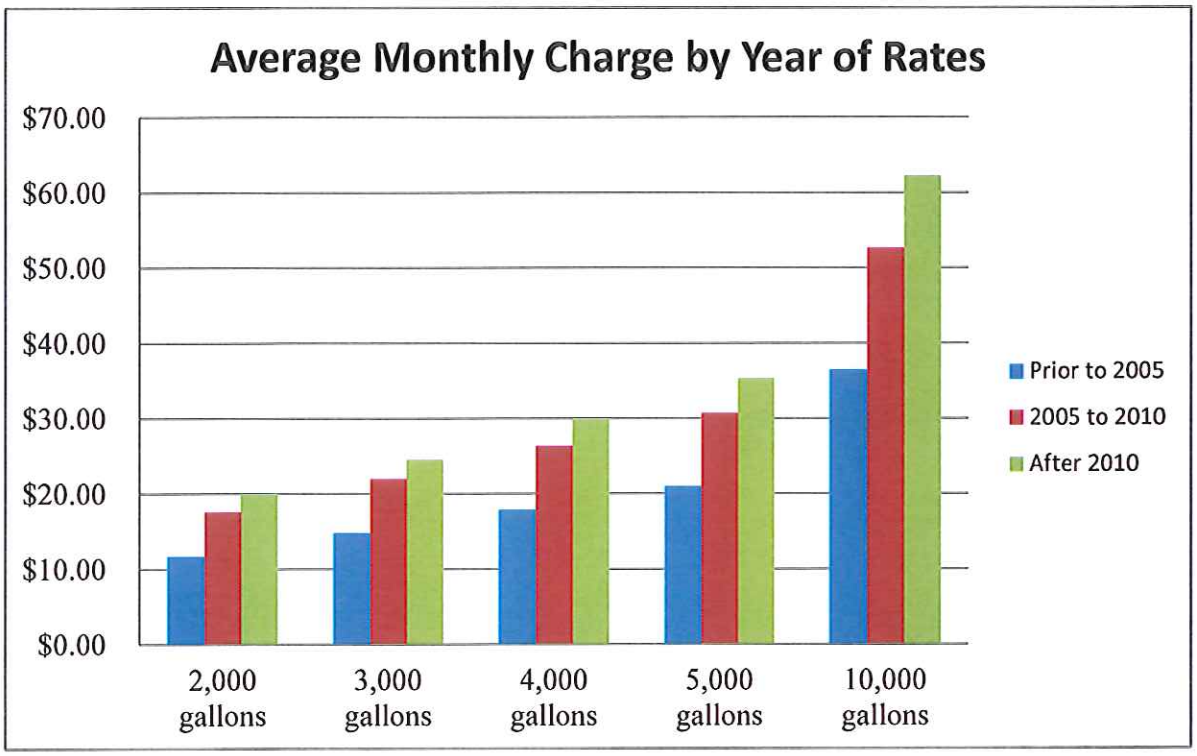
# Indiana Comparative Sewer Rate Study

## Average Statistics by Effective Date of Current Rates

### Population 15,001 to 25,000

### Monthly Billings

| | Year Current Rates Were Effective | | |
|---|---|---|---|
| | Prior to 2005 | 2005 to 2010 | After 2010 |
| Municipalities in study group | 1 | 4 | 12 |
| First bracket price (per 1,000 gallons) | $3.09 | $4.10 | $4.57 |
| Last bracket price (per 1,000 gallons) | $3.09 | $4.10 | $4.49 |
| Gallons given for minimum price | N/A | N/A | 2,748 |
| Minimum charge for 5/8"meter | N/A | N/A | $13.28 |
| Base Charge 5/8" Meter | $5.57 | $8.81 | $11.79 |
| Typical Billings: | | | |
| 2,000 gallons | $11.75 | $17.58 | $20.07 |
| 3,000 gallons | $14.84 | $21.97 | $24.62 |
| 4,000 gallons | $17.93 | $26.36 | $30.00 |
| 5,000 gallons | $21.02 | $30.74 | $35.39 |
| 10,000 gallons | $36.47 | $52.67 | $62.33 |



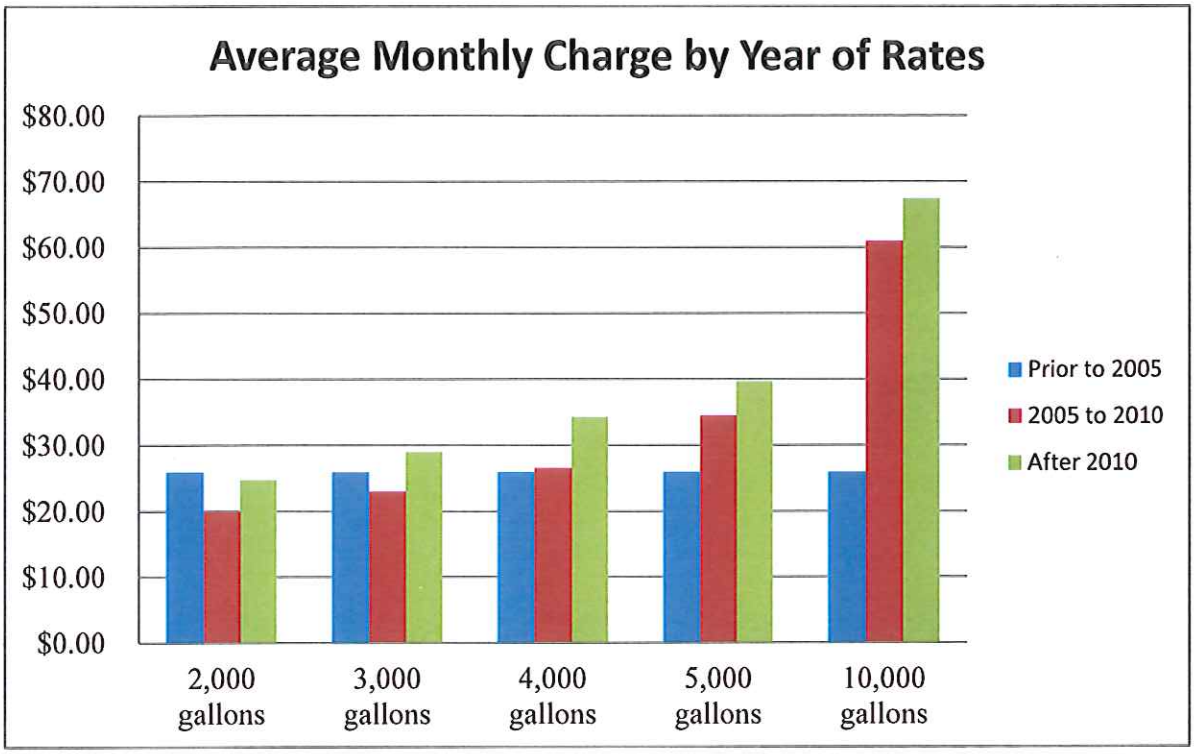
# Indiana Comparative Sewer Rate Study

## Average Statistics by Effective Date of Current Rates

### Population Over 25,000

### Monthly Billings

| | Year Current Rates Were Effective | | |
|---|---|---|---|
| | Prior to 2005 | 2005 to 2010 | After 2010 |
| Municipalities in study group | 1 | 11 | 24 |
| First bracket price (per 1,000 gallons) | N/A | $5.67 | $5.24 |
| Last bracket price (per 1,000 gallons) | N/A | $5.53 | $5.24 |
| Gallons given for minimum price | N/A | 3,508 | 2,576 |
| Minimum charge for 5/8"meter | N/A | $26.64 | $22.89 |
| Base Charge 5/8" Meter | N/A | $8.90 | $13.70 |
| Typical Billings: | | | |
| 2,000 gallons | $26.00 | $19.95 | $24.81 |
| 3,000 gallons | $26.00 | $22.96 | $29.03 |
| 4,000 gallons | $26.00 | $26.51 | $34.37 |
| 5,000 gallons | $26.00 | $34.44 | $39.70 |
| 10,000 gallons | $26.00 | $60.94 | $67.54 |



## About Umbaugh

Umbaugh is now in its seventh decade of providing municipal advisory services to local governments, municipal and not-for-profit utilities, school corporations, libraries and a variety of other governmental clients. Our firm has constantly grown to meet this demand and changed with the increasing complexities of public financing, but we remain committed to our initial vision of personal attention, integrity and providing high quality service to each client.


| Indiana | Indiana | Michigan | Ohio |
|---|---|---|---|
| 8365 Keystone Crossing | 112 IronWorks Avenue | 2150 Association Drive | 200 East Campus View Blvd |
| Suite 300 | Suite C | Suite 100 | Suite 200 |
| Indianapolis, Indiana 46240 | Mishawaka, Indiana 46544 | Okemos, Michigan 48864 | Columbus, Ohio 43235 |
| (317) 465-1500 | (574) 935-5178 | (517) 321-0110 | (614) 985-3744 |


## Municipal Advisors to:

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- Conservancy Districts
- Counties
- Electric Utilities
- Gas Utilities
- Investor-Owned Utilities
- Libraries
- Municipal Sewage Works
- Municipal Water Utilities
- Not-For-Profit-Utilities
- Regional Water & Sewer Districts
- Rural Water Companies
- Schools
- Stormwater Utilities

## Services

- Annexation Analysis and Fiscal Plans
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- Coordination of Bonds Closings
- Debt Management Studies
- Escrow Verifications, Lease Sufficiency, Parity Report
- In-Progress Report During Construction
- TIF Neutralization
- Meeting and Public Hearing Presentations
- Negotiated Bond Sales and Private Placement
- Official Statements and Bond Sale Preparations
- Project Planning, Development and Feasibility
- Referendum Strategies and Assistance
- Refunding of Existing Debt
- Tax Increment and Tax Abatement Analysis
- Utility Rate Studies and Cost of Service Analysis

**For a comprehensive list of services visit www.umbaugh.com**


Indiana Comparative Rate Study – Sewer January 2016

# Indiana Comparative Rate Study

# Stormwater

## October 2016

Prepared By

UMBAUGH

It's all about experience

# Indiana Comparative Stormwater Rate Study

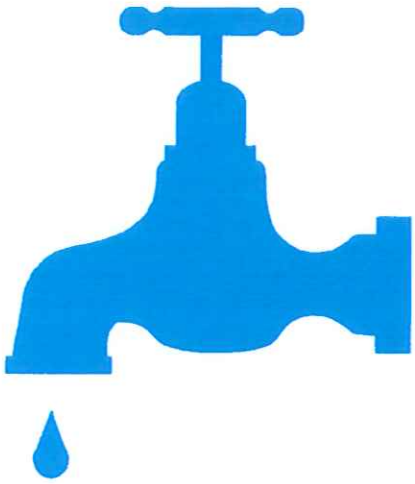
## SUMMARY REPORT OF COMPREHENSIVE SURVEY

October 2016

Prepared by:

UMBAUGH
It's all about experience
Certified Public Accountants, LLP

# Charging for Stormwater



You wouldn't think of operating a municipal water utility without charging for the water. And, although they may complain about them, customers are now accustomed to being billed a separate user fee to handle sanitary wastewater treatment.

Initiating a charge for handling stormwater may be next. It is part of the trend to identify the services local governments provide to residents and businesses and recapture the actual costs of providing each service.

# EPA and IDEM mandates

Stormwater quality and pollution prevention may not be something your average constituent thinks about. The people in your community tend to take it for granted as part of the group of general services their municipality handles for them. But the costs of handling stormwater have increased as the EPA and IDEM have mandated compliance with the Phase II Rule that requires Municipal Separate Storm Sewer System (MS4) entities to develop Stormwater Quality Management Programs and apply for stormwater permits. IDEM has designated more than 180 MS4s in Indiana, including cities, towns, counties and universities. It is likely your community may be among those 180+. Even if it is not, your community may get drawn in to it, plus more progressive communities have the opportunity to consider implementing stormwater services and fees. A complete list of the MS4 communities can be found on IDEM's website:

**http://www.in.gov/idem/stormwater/2404.htm**

# Alleviate Stress on Your General Fund Budget

Your community, like many others, has probably experienced general fund reductions due to economic conditions or property tax caps. Additionally, there is a macro trend toward finding revenue sources to reduce reliance on property taxes. Before reducing services or overhead to balance budgets, consider implementing stormwater rates and charges to pay for the stormwater-related costs. Removing the MS4 mandate costs from the general fund budget can be a great help, freeing up funds for other budget expenditures such as police or fire.

***Removing MS4 mandate costs from the general fund can free up funds for other budget expenditures such as police or fire.***

# Setting Up the Stormwater Utility

There are several ways to set up a stormwater utility.

Your community can set up a separate stormwater utility or district or use the existing sanitary sewage works or sanitary district to operate and fund the stormwater system as defined in further detail below. There are advantages and disadvantages to each. Depending on the set up of the utility, there is limited ability to pay for capital expenditures and debt service from property tax revenues. Property taxes cannot be used to pay for operation, maintenance and repair expenses, so these costs need to be paid from stormwater user fees. Although the costs to provide stormwater services can be funded from a combination of property taxes and user fees, it is more common for all costs to be funded with stormwater user fees.

# Funding Mechanisms Available

Once a plan and a budget are established, the community must now face the challenge of funding the budget. Currently, there are four main mechanisms available to stormwater-affected communities. These mechanisms are the creation of a stormwater utility or district, use of the existing sewage utility or sanitary district, formation under city, town or redevelopment district, and a county drainage board. In the paragraphs below, we have provided a description of the mechanisms and a comparison illustrating the advantages and disadvantages of each.

## 1. Stormwater Utility or District

This is a mechanism in which the community forms a separate stormwater utility or district that will provide the necessary stormwater services. It is established through ordinance and the governing body depends on the type of entity formed. Once formed a special taxing district may be established depending on the applicable territory. For a consolidated city, all territory of the county containing the consolidated city is usually included (Indianapolis and Marion County). For all other municipalities, all territory within the corporate boundaries of the municipality is usually included. For a county, all the territory in the county that is not located in a municipality is usually included.

The board of the entity is then given certain authorities so that it may perform the duties of providing stormwater-related services. It must hold hearings following public notice, install and maintain the stormwater collection and disposal system, and make stormwater system improvements as needed. In order to fulfill these duties the board is authorized to fund operations and improvements through proceeds from special taxing district bonds (supported by property taxes), user fees, revenue bonds (supported by user fees), and any other available funds.

### 2. Existing Sewage Utility or Sanitary District

Instead of forming a new stormwater entity, a community may use an existing sewage works system or sanitary district for stormwater operations. It has the same duties and obligations as a newly formed stormwater entity. Stormwater operations and improvements may be funded through user fees, revenue bonds (supported by user fees), and proceeds of special taxing district bonds (sanitary districts only). Unlike a Stormwater District or Sanitary District, a sewage works does not have taxing authority.

### 3. City, Town, or Redevelopment District

In addition to new stormwater entities or the use of existing sewage utilities, cities, towns, and counties have various other funding options available to them, which may be used to fund stormwater requirements. However, these funding options typically fund general governmental operations and stormwater needs are just one of these competing needs. Options available include property taxes, local option income taxes, TIF revenues, general obligation bonds, revenue bonds backed by TIF or local option income taxes, impact fees, cumulative capital funds, and redevelopment district leases or bonds. In the past, it was common for cities, towns, and counties to use street department or general fund revenues to fund stormwater needs. While these are certainly options, they are subject to statutory constraints or competing needs and may not always be available in the future.

### 4. County Drainage Board

Another option is for the county to provide stormwater services. The drainage board has the same powers and funding options available as the others and it can assess properties benefited for cost of stormwater operations and improvements. These assessments then could be used to secure bonds.

# Determining the Cost of Handling Stormwater

As you begin considering how to set stormwater rates, you need to determine the actual costs of providing the service. Stormwater rates and charges are subject to the same statutory requirements as other utilities; they must be fair, just and non-discriminatory.

The costs of MS4 mandates you will want to cover with a special rate include implementing best management practices to reduce stormwater runoff and pollution, such as street sweeping and stormwater inlet cleaning. Other costs include public education and outreach, reporting requirements, erosion and sediment control plan reviews, site inspections and illicit discharge inspections.

# Six Minimum Control Measures

Many of the stormwater operational costs stem from the required Best Management Practices and the achievement of measurable goals to satisfy each of the six minimum control measures as mandated by EPA and IDEM. Below are the required six minimum control measures:

- Public education and outreach
- Public involvement and participation
- Illicit discharge detection and elimination
- Construction site runoff control
- Post construction runoff control
- Pollution prevention / good housekeeping

# Stormwater User Fees

You have several options for setting a stormwater utility fee. Some communities have adopted a flat fee for all users and properties, regardless of size or characteristic. This is more prevalent when setting initial rates and when the monthly fee is very small. It is most common in Indiana to institute a flat monthly charge for all residential households (known as an Equivalent Runoff Unit or ERU) and establish a non-residential property charge based on the amount of impervious area. This is a fair way to assess costs since a large commercial building has more rain runoff than a residence. If you are worried about schools, industries, commercial, and shopping malls paying large monthly stormwater bills, you can make credits available to large non-residential properties that assist with public education or construct improvements to help reduce stormwater, such as sediment ponds, swales or detention or retention facilities.

***Most common in Indiana:***

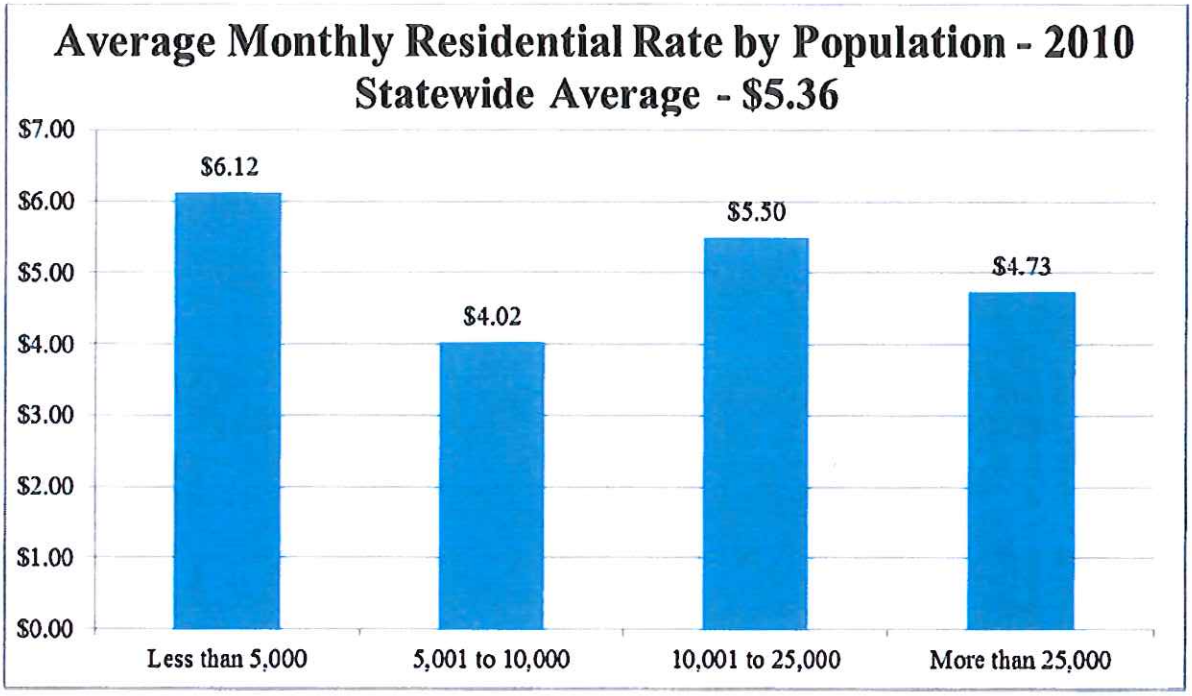
***One rate for residences***

***A second rate for non-residential***

# What's a reasonable rate?

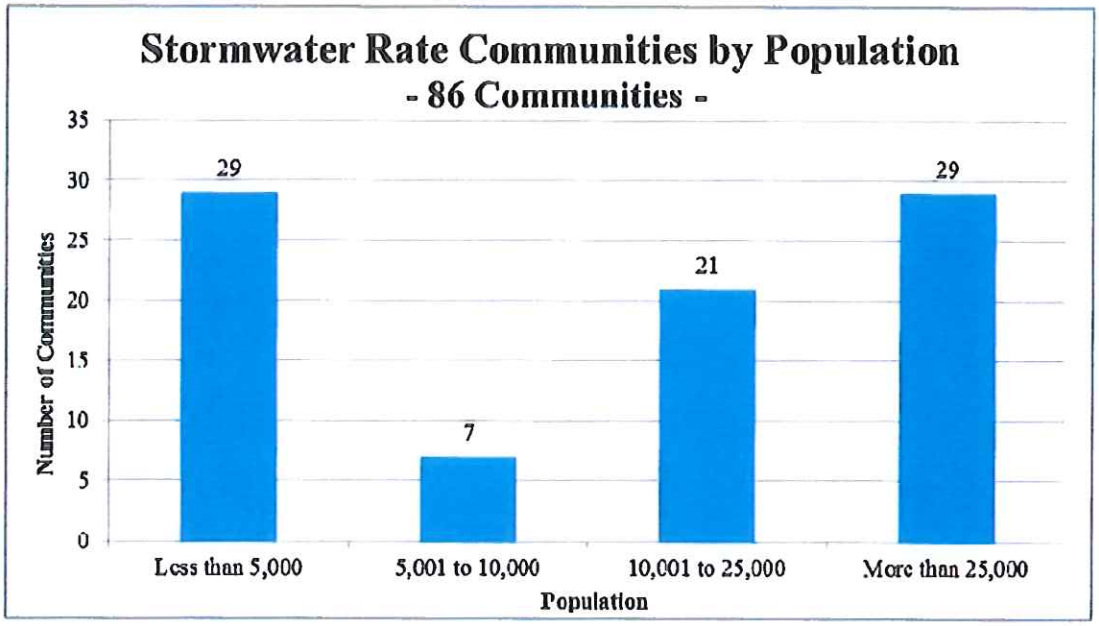
It is good idea to benchmark your proposed stormwater rate to nearby communities and similar-size municipalities. Umbaugh has worked with many cities, towns, and counties as they have implemented stormwater rates and developed stormwater projects. Based on a sample size of 86 Indiana stormwater utilities, the average residential rate is $5.36 per month, with residential rates ranging from $1.25 to $21.00 per month.

***Average residential rate:***
***2012 = $5.00 per month***
***2016 = $5.36 per month***



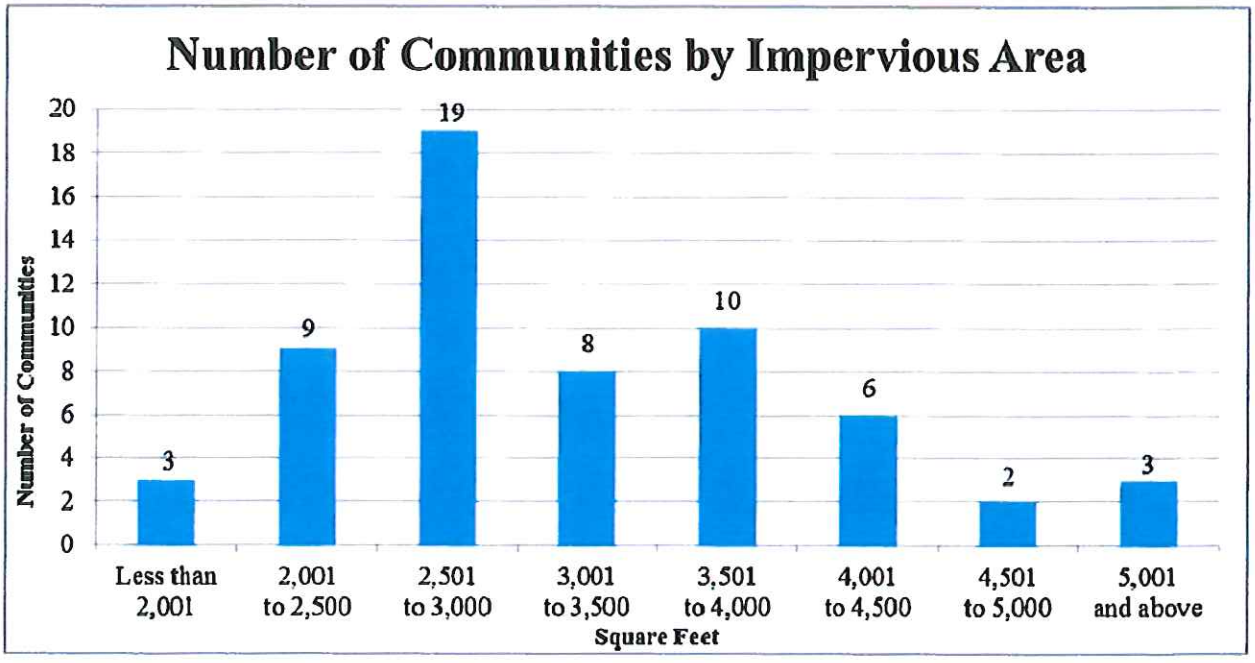
# How many communities have stormwater rates?

Our study includes 86 communities in Indiana with stormwater rates, which is up from the 63 in our last study, based on our client base and research. The chart below shows these communities categorized by population.



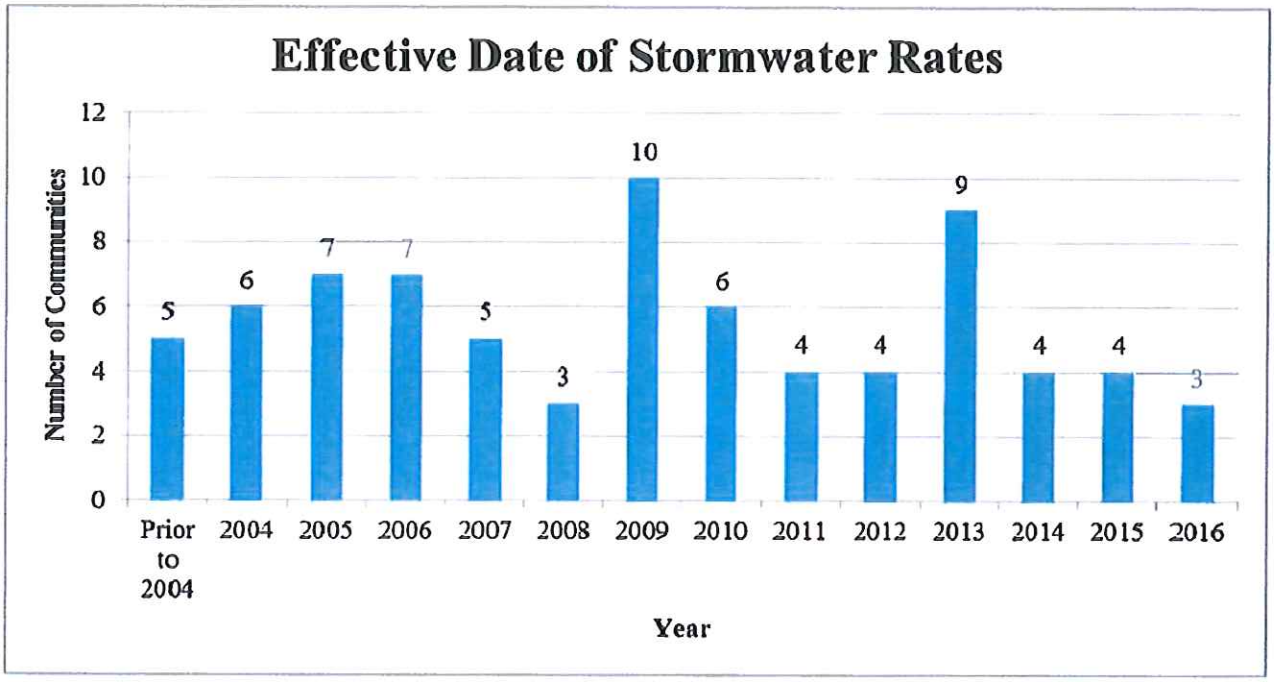

# Impervious Area

There are 60 communities in our study that have utilized impervious areas as a basis for determining stormwater rates. Residential impervious areas range from 1,650 square feet to 12,000 square feet. Based on this sample size, 32% of the communities have residential impervious area of 2,501 to 3,000 square feet.



# Effective Date of Stormwater Rates

The chart below shows the effective dates of stormwater rates for 77 of the 86 communities included in our research.




# Need help?

Please contact Umbaugh if you would like help with:

- working as a team with your staff and consulting engineers to create a financial plan for stormwater projects and to comply with MS4 mandates
- relieving the stress in your general fund or sewage works budget
- assistance with stormwater utility management options
- establishing the actual costs for stormwater
- setting stormwater rates

INSIDE Public Accounting 2016 BEST OF THE BEST FIRMS

# UMBAUGH

INSIDE Public Accounting 2016 FASTEST-GROWING FIRMS

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- Negotiated Bond Sales and Private Placements
- Official Statements and Bond Sale Preparations
- Coordination of Bond Closings
- In-Progress Reports During Construction
- Escrow Verifications, Lease Sufficiency, Parity Report
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**OTHER SERVICES:**

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- Arbitrage Rebate Services
- Audit Ready Services
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- Continuing Disclosure
- Debt Management Studies
- Management Advisory Services
- Meeting and Public Hearing Presentations
- Project Planning, Development and Feasibility
- Referendum Strategies and Assistance
- Tax Increment and Tax Abatement Analysis
- TIF Neutralization

*Umbaugh is a registered municipal advisor with the SEC and MSRB and a member of the Private Company Practice Section of the AICPA.*

INSIDE Public Accounting 2016 BEST OF THE BEST FIRMS

# UMBAUGH

INSIDE Public Accounting 2016 FASTEST-GROWING FIRMS

## FIRM HISTORY AND QUALIFICATIONS

| **Indianapolis, Indiana** | **Mishawaka, Indiana** | **Lansing, Michigan** | **Columbus, Ohio** |
|---|---|---|---|
| 8365 Keystone Crossing | 112 IronWorks Ave. | 2150 Association Dr. | 200 East Campus View Blvd. |
| Suite 300 | Suite C | Suite 100 | Suite 200 |
| Indianapolis, IN 46240 | Mishawaka, IN 46544 | Okemos, MI 48864 | Columbus, OH 43235 |
| 317-465-1500 | 574-935-5178 | 517-321-0110 | 614-985-1680 |

***Company History*** – Umbaugh has over 65 years of experience providing financial advisory services to Indiana's local governments, utilities and a variety of other governmental clients in Indiana. Herschell J. Umbaugh initially started the firm in 1950 as a Certified Public Accountant following several years of service with the State Board of Accounts. In 1972, the firm became a partnership today known as Umbaugh. In 1975, the firm expanded its original location in Plymouth to include an additional office in Indianapolis, and later, offices in Lansing, Michigan and Columbus, Ohio were opened. The firm relocated the Plymouth, Indiana office to Mishawaka, Indiana. From the original one-person operation, the firm has grown to include over 100 partners and staff to match the growing and diverse needs of our governmental clients.

The experience of over 65 years of solid financial consulting and planning for governmental units has resulted in completed projects for utilities, cities, towns, counties, schools, libraries and airports throughout the State of Indiana. Even though our firm has grown significantly, we realize that our success is a result of the personal attention, integrity and high quality of service we provide to each individual client.

***Company Qualifications*** – Umbaugh is a partnership of Certified Public Accountants who limit our practice to governmental units and not-for-profit corporations. Major aspects of our work are to serve as the independent financial advisor to governmental units that wish to fund governmental services through a system of user fees and/or taxes that adequately and appropriately cover the cost of providing those services. With four offices and over 100 people, we offer a broad range of knowledge, experience and services to our clients. We currently have well over one hundred engagements in various stages of financial planning and development. Despite this large number of clients, our firm is staffed and organized to provide individual attention to each project.

***Innovation, Leadership and Project Management*** – We have daily contact with municipalities and utilities and we maintain up-to-date records of rates and charges and other financial data of all types of utilities and municipal services. Our creativity and leadership enables us to provide the financial advice needed for successfully completing rate studies and similar projects. Since the firm's inception, we have assisted hundreds of clients in developing equitable rates and charges for the services they provide and in establishing an accounting and record keeping system for these utilities.

In addition to being a leader in the provision of these services, Umbaugh has been very active in providing training and educational programs in the area of utility rate setting, cost of service studies and management for local officials. We have provided workshops and training for the Indiana Association of Cities and Towns, the Indiana Association of Regional Councils, the Indiana League of Municipal Clerks and Treasurers, the Indiana Section of the American Water Works Association, the Indiana Water Environment Association, the Indiana Rural Water Association, the Alliance of Indiana Rural Water, the Indiana Association of Floodplain and Stormwater Management, and other local governmental and utility associations.

Additional information regarding Umbaugh, its employees and services can be obtained at our website:

www.umbaugh.com

## EXISTING & PROPOSED WASTEWATER RATES (FOR TYPICAL HOME @ 4,000 GAL/MO)

| | Gallons Generated | Fee / 100 CF | Equivalent Gallons | Min Fee (First 300 CF) | Equivalent Gallons | Total Fee (4,000 gallons) |
|---|---|---|---|---|---|---|
| Existing | 4000 | $ 7.40 | 748 | $ 23.16 | 2,244 | $ 37.96 |
| Proposed | 4000 | $ 9.84 | 748 | $ 30.80 | 2,244 | $ 50.48 |

## EXISTING & PROPOSED WASTEWATER RATES

| Gallons Generated | New Fee | Old Fee | % Change |
|---|---|---|---|
| 1000 | $ 30.80 | $ 23.16 | 33% |
| 2000 | $ 30.80 | $ 23.16 | 33% |
| 3000 | $ 40.64 | $ 30.56 | 33% |
| 4000 | $ 50.48 | $ 37.96 | 33% |
| 5000 | $ 60.32 | $ 45.36 | 33% |